Bently Nevada 330930-060-00-05

01 Scope and system boundary

Installed function

Bently Nevada 330930-060-00-05 is a 6.0 m extension cable for a 3300 XL NSv proximity-transducer system. The 00 cable option is supplied without stainless-steel armor. Electrical length belongs to the complete transducer path. This 6.0 m extension can form a 7.0 m chain when combined with a 1.0 m probe lead and the matching signal conditioner. The coaxial construction is part of the measurement system, so physical reach and connector fit are insufficient selection criteria.

Functional sequence

01	NSv probe lead
02	6.0 m extension
03	Matched conditioner
04	Measurement channel

Before work starts

Check	Technical purpose
Select the complete chain	Read the probe lead length and the signal-conditioner system length before routing. For this 6.0 m extension, a 1.0 m probe produces a 7.0 m assembly. Keep NSv components together; a similar connector does not prove electrical compatibility.
Plan the route	Allow at least 25.4 mm bend radius and leave enough supported cable at each connection to avoid pulling the contacts. The unarmored construction requires particular attention where a route passes through metal edges or moving machine parts.

Isolation and handling

Include the probe lead when calculating electrical length. A cable continuity result alone does not establish a correctly matched proximity-transducer channel.

Bently Nevada 330930-060-00-05

02 Connections and readiness

Interface preparation

Interface	Function	Check
Probe-to-extension joint	Coaxial signal connection.	Keep mating contacts clean, dry and mechanically supported.
Extension run	75-ohm FEP-insulated coaxial cable.	The 00 option has no stainless-steel armor.
Conditioner connection	Completion of the matched NSv electrical path.	Match total probe-plus-extension length to the conditioner.
Monitoring output	Produced by the selected conditioning hardware.	The extension cable itself does not generate a 4-20 mA output.

Engineering considerations

The minimum 25.4 mm bend radius applies to the extension route. Plan bends before tightening connectors and support the cable on both sides of a joint. Finger-tight assembly is the recommended method; 0.56 N·m is the maximum connector torque. Probe-case mounting torque is a different specification and must never be applied to a coaxial joint.

Relevant setup data

Item	Value or condition
Operating temperature	-52 to +177 °C
Storage temperature	-52 to +177 °C
Example total path	1.0 m probe + 6.0 m cable = 7.0 m
Calculated center resistance	1.32 ohm over 6.0 m; excludes contacts

Bently Nevada 330930-060-00-05

03 Installation and replacement

Work sequence

01	Select the complete chain
02	Plan the route
03	Handle the connector
04	Interpret resistance checks
05	Verify the signal path
06	Preserve the matched assembly

Execution details

Stage	Action and reason
Handle the connector	Inspect the contact and insulating surfaces before mating. Bring the connector together without loading the cable sideways. The intended tightening method is by hand; 0.56 N·m is the maximum connector torque, not a target to exceed.
Interpret resistance checks	Use the published per-metre values to distinguish a cable check from a complete probe check. The nominal center-conductor contribution over 6 m is 1.32 ohm and the shield contribution is 0.396 ohm, excluding connector and measurement-lead resistance. These calculations are not a replacement for the complete-channel acceptance procedure.
Verify the signal path	After the cable is secured, confirm the probe gap and conditioned response using the configured measurement channel. A stable reading with the cable loose does not prove the final routed assembly. Review changes while the machine is in its approved test condition.
Preserve the matched assembly	Keep the original electrical length and component family through maintenance. If a probe or signal conditioner changes, reassess the entire chain before reconnecting this extension. Verify the final channel at its operating configuration.

Before energization

Confirm that the probe and extension lengths total the selected system electrical length. Use the NSv cable with the corresponding NSv probe and signal conditioner. Maintain a bend radius of at least 25.4 mm along the route. Provide routing protection appropriate to a cable without stainless-steel armor.

Bently Nevada 330930-060-00-05

04 Commissioning and fault isolation

Functional acceptance

Test	Action	Expected result
Electrical path	Add probe and extension lengths.	The result matches the installed conditioning hardware.
Routing	Inspect the final secured run.	No sharp folds, exposed edge contact or connector traction.
Joint condition	Check contacts and hand-tight assembly.	Clean, dry, fully mated connections.
Channel response	Check probe gap and conditioned indication together.	The complete channel responds correctly in the approved test condition.

Interpret the symptom

Observation	Investigation	Decision boundary
Continuity passes, channel response wrong	Review probe family, total electrical length and conditioner selection.	Continuity alone is not system calibration.
Reading changes after routing	Inspect joints, bends and cable traction in the final installed route.	Recheck the channel with the route secured.
Cable exposed at a metal edge	Provide suitable protection and strain relief for the unarmored cable.	Do not use the electrical insulation as mechanical armor.
Unexpected measured resistance	Account for meter leads and connector contributions.	The per-metre calculations are cable-only estimates, not new acceptance tolerances.

Controlled return to service

Retain the probe identity, probe lead length, cable identity, conditioner system length and final gap or channel reference. Record the completed route and joint positions. Reassess the whole chain if either the probe or conditioning hardware changes during subsequent maintenance.

Bently Nevada 330930-060-00-05

05 Technical checks and handover

Questions that affect the work

Can Bently Nevada 330930-060-00-05 complete a 7.0 m transducer chain?
Yes. Its 6.0 m extension length combines with a 1.0 m probe lead to make a 7.0 m path, which must match the selected signal conditioner.

What bend limit applies when routing Bently Nevada 330930-060-00-05?
The minimum bend radius is 25.4 mm, so a tight fold or sharp turn is unsuitable.

Should the coaxial connectors on Bently Nevada 330930-060-00-05 be wrench-tightened?
The recommended connection is finger-tight, with a maximum connector torque of 0.56 N·m.

How does the construction of Bently Nevada 330930-060-00-05 affect mechanical protection?
The cable has FEP insulation but no stainless-steel armor, so its route must protect it from mechanical damage.

Final checks

Check	Requirement
1	Keep mating coaxial contacts clean and dry before connection.
2	Tighten connectors by hand and do not exceed 0.56 N·m.
3	Prevent traction or twisting at the probe-to-extension connection.
4	Check the assembled channel response after routing and connection are complete.

Related catalogue pages

Bently Nevada 330930-045-00-05

Bently Nevada 330930-060-03-05

Technical basis

Bently Nevada 147385 Rev. R, pages 3, 5-7, 13